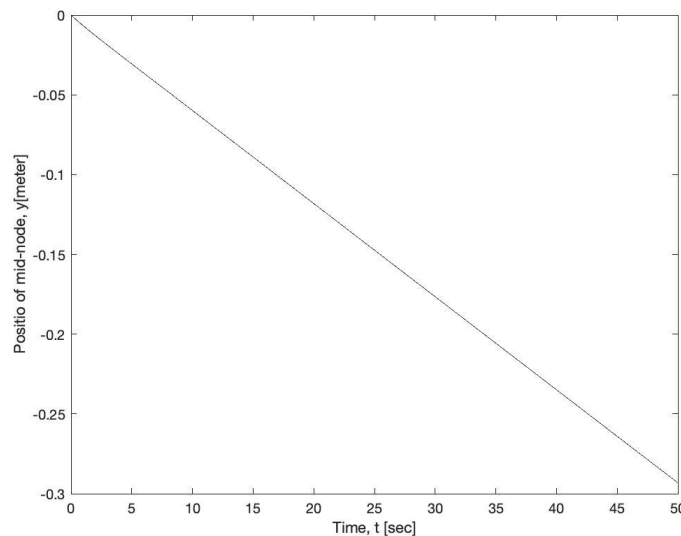


### Problem 1:

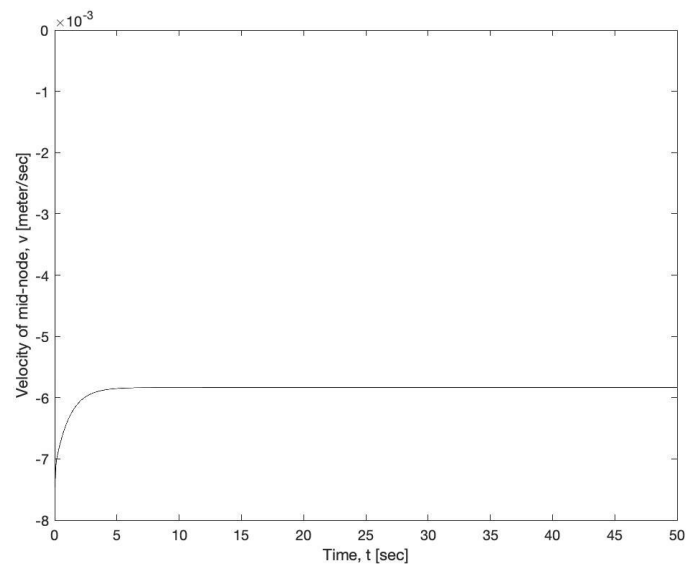
1. Question: What happens to the turning angle if all the radii ( $R_1, R_2, R_3$ ) are the same? Does your simulation agree with your intuition?
  - a. Answer: There might be no bending between  $R_1-R_2$  and  $R_2-R_3$ . It is due to the same size, they would have the same weight in the fluid. Therefore, three spheres would move with the same speed.
2. Question: Try changing the time step size ( $\Delta t$ ), particularly for your explicit simulation, and use the observation to elaborate the benefits and drawbacks of the explicit and implicit approach.
  - a. Answer:
    - i. With smaller time step,

### Problem 2:

1. Vertical position and velocity of the middle node:

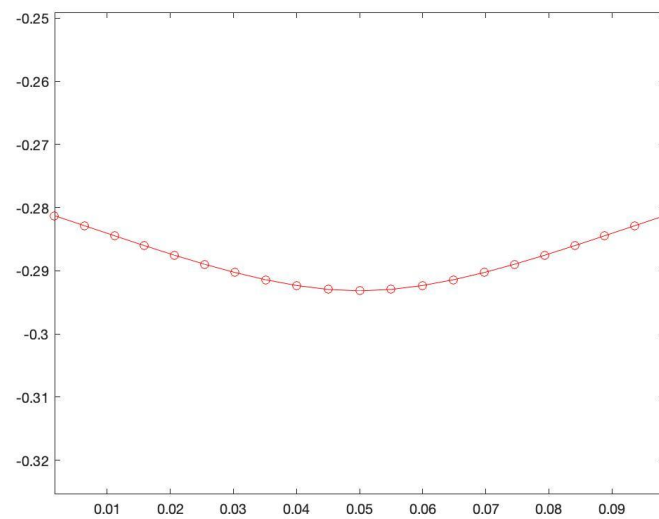


a.



b. Terminal Velocity is: -0.058 (m/sec)

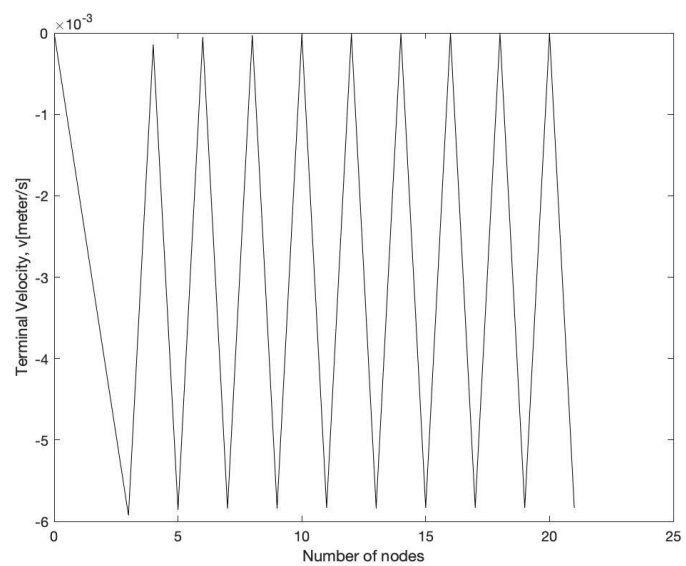
2. Final deformed:



a.

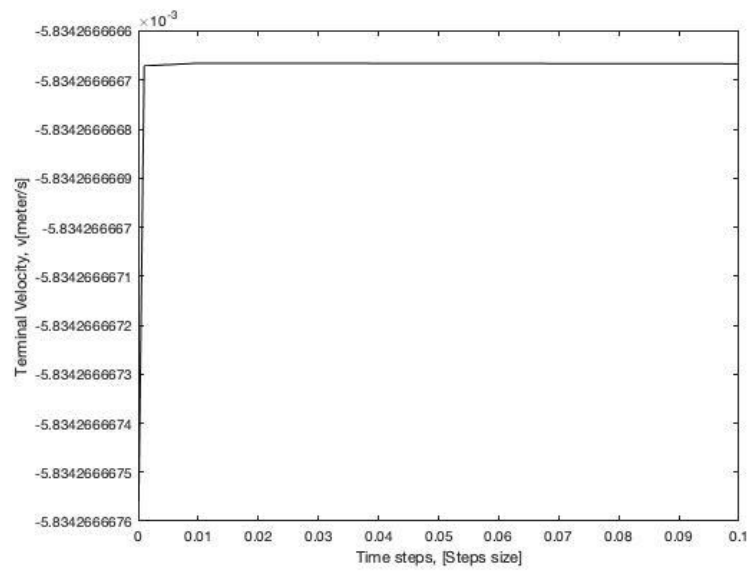
### 3. Spatial Discretization:

a. Number of nodes VS Terminal velocity:



i.

b. Time Step size VS terminal velocity:



i.

Problem 3:

1.